Complete Summary

GUIDELINE TITLE

Allergic rhinitis.

BIBLIOGRAPHIC SOURCE(S)

University of Michigan Health System. Allergic rhinitis. Ann Arbor (MI): University of Michigan Health System (UMHS); 2007 Oct. 12 p. [3 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: University of Michigan Health System. Allergic rhinitis. Ann Arbor (MI): University of Michigan Health System; 2002 Jul. 12 p. [3 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Allergic rhinitis, including:

- Seasonal allergic rhinitis
- Perennial allergic rhinitis

GUIDELINE CATEGORY

Diagnosis
Management
Treatment

CLINICAL SPECIALTY

Allergy and Immunology
Family Practice
Internal Medicine
Obstetrics and Gynecology
Otolaryngology
Pediatrics

INTENDED USERS

Advanced Practice Nurses
Nurses
Pharmacists
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To assist in the diagnosis and cost-effective treatment of allergic rhinitis

TARGET POPULATION

Adults and children with presumed or confirmed allergic rhinitis

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. History and examination
2. Symptom diary
3. Medication trial
4. Allergy testing (skin tests and radioallergosorbent test [RAST])

Therapy

1. Avoidance of allergens
2. Over-the-counter non-sedating antihistamine loratadine (Claritin)
3. Prescribed medications
    - Intranasal corticosteroids, such as fluticasone propionate (Flonase); mometasone (Nasonex AQ); flunisolide (Nasarel)
    - Oral, non-sedating antihistamines, such as fexofenadine (Allegra)
    - Oral decongestants
    - Leukotriene inhibitors
    - Intranasal cromolyn
    - Intranasal antihistamines (Astelin)
    - Ocular preparations

4. Immunotherapy
5. Referral to an allergist/specialist
6. Special considerations in pediatrics, pregnancy, severe asthma, and severe atopic dermatitis patients

MAJOR OUTCOMES CONSIDERED

- Accuracy and sensitivity of diagnostic tools
- Incidence, frequency, and severity of allergy symptoms, such as itching, sneezing, rhinorrhea
- Medication side effects
- Cost-effectiveness of treatment

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The literature search for this update began with the results of the literature search performed for the 2002 version of this guideline. A search for literature published since that time was performed. The search on Medline was conducted prospectively for literature published from 1/1/99 to 7/31/06 using the major keywords of: allergic rhinitis, human (adult and pediatric), English language, clinical guidelines, avoid, clinical trials – phase IV, cohort studies, controlled clinical trials, multicenter studies, randomized controlled trials, observational trial, meta analysis. Separate searches were performed for: history (inciting factors, seasonality, family history, severity & severity scoring), physical exam, signs, symptoms (nasal exam for changes in mucosa, conjunctival changes), laboratory (nasal smear for presence of eosinophyls, skin testing; avoid: radioallergosorbent test [RAST]), Diagnosis – other references, avoid or control triggers, corticosteroids (intra-nasal, ocular), antihistamines (intra-nasal, oral, ocular), leukotriene inhibitors/modulators, decongestants (intra-nasal, ocular, oral), mast cell stabilizers (intra-nasal, ocular), nonsteroidal anti-inflammatory (ocular), anticholinergics (intra-nasal), omalizumab, saline irrigation to remove allergens (nasal spray, eye wash), immunotherapy/allergy shots or inhaler, turbinate reduction surgery, integrative/alternative/ complementary medicine [9/1/05 – 7/31/06 only], pregnancy & lactation), treatment or management – other references.

The search was conducted in components each keyed to a specific causal link in a formal problem structure (available upon request). The search was supplemented with recent clinical trials known to expert members of the panel. Negative trials were specifically sought. The search was a single cycle.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational trials
D. Opinion of expert panel

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Conclusions were based on prospective randomized clinical trials (RCTs) if available, to the exclusion of other data. If RCTs were not available, observational studies were admitted to consideration. If no such data were available for a given link in the problem formulation, expert opinion was used to estimate effect size.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

Treatment Strategy and Cost

Pharmacologic control of allergic rhinitis is expensive and may carry some long term side effects, especially in children. Immunotherapy (allergy shots) may provide significant long-term control of symptoms at a reduced cost and without the risks of medication, but requires multiple office visits, which compromises patient compliance. These issues must be weighed when considering treatment options.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Drug tables were reviewed by UMHHC Pharmacy Services. The guideline was reviewed at clinical conferences or grand round meetings of divisions and departments to which the content is most relevant. This guideline was reviewed at meetings of Allergy and Immunology, Family Medicine, General Medicine, General Pediatrics, and Otolaryngology. The revised document is reviewed by the Guidelines Steering Committee, composed of representatives from all primary care specialties. The UMHS Executive Committee on Clinical Affairs performs a final review prior to institutionally endorsing the guideline.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the National Guideline Clearinghouse (NGC): The following key points summarize the content of the guideline. Refer to the full text for additional information, including detailed information on dosing, possible side effects, and cost of medications; avoidance of allergens; skin testing; immunological therapy; and considerations for special patient populations (i.e., pediatrics, pregnant patients, patients with severe asthma or severe atopic dermatitis). Definitions for the levels of evidence (A, B, C, D) are provided at the end of the "Major Recommendations" field.

Diagnosis

Allergic rhinitis is an antigen-mediated inflammation of the nasal mucosa that may extend into the paranasal sinuses. Diagnosis is usually made by history and examination ("itchy, running, sneezy, stuffy"). A symptom diary and a trial of medication may be helpful to confirm a diagnosis. Allergy testing is not commonly needed to make the diagnosis, but may be helpful for patients with multiple potential allergen sensitivities.

Therapy

The goal of therapy is to relieve symptoms.

1. **Avoidance of allergens is the first step in this process**. (Refer to text in the original guideline document for details.) **If avoidance fails**:
2. The over-the-counter (OTC), non-sedating antihistamine loratadine (Claritin) should be tried initially, as it will provide relief in most cases. If symptoms persist, consider the following options:
3. Prescribed medications
    - Intranasal corticosteroids are considered the most potent medications available for treating allergic rhinitis [*A*]. They control itching, sneezing, rhinorrhea, and stuffiness in most patients, but do not alleviate ocular symptoms. They have a relatively good long-term safety profile. **University of Michigan Health System (UMHS) preferred intranasal corticosteroids for adults are generics:**

fluticasone (Flonase) and flunisolide (Nasarel). Mometasone (Nasonex AQ) is preferred for children.

- Oral, non-sedating antihistamines prevent and relieve itching, sneezing, and rhinorrhea, but tend to be less effective for nasal congestion *[A]*. **UMHS preferred prescription antihistamine is fexofenadine (Allegra).**
- Oral decongestants decrease swelling of the nasal mucosa which, in turn, alleviates nasal congestion *[A]*. However, they are associated with appreciable side effects, especially in geriatric patients, and should only be considered when congestion is not controlled by other agents. They are contraindicated with monoamine oxidase inhibitors (MAOIs), in uncontrolled hypertension and in severe coronary artery disease.
- Leukotriene inhibitors are less effective than intranasal corticosteroids *[A]* but may be considered for patients that cannot tolerate the first line agents or have co-morbid asthma.
- Intranasal cromolyn (OTC) is less effective than intranasal corticosteroids *[A]*. Cromolyn is a good alternative for patients who are not candidates for corticosteroids. It is most effective when used regularly prior to the onset of allergic symptoms.
- Intranasal antihistamines (Astelin), while effective in treating the nasal symptoms associated with seasonal and perennial rhinitis and nonallergic vasomotor rhinitis, offer no therapeutic benefit over conventional treatment *[A]*.
- Ocular preparations should be considered for patients with allergic conjunctivitis who are not adequately controlled with or can not tolerate an oral antihistamine.

Referral

Appropriate criteria for referral to a colleague who specializes in the diagnosis and treatment of allergies may include *[D]*:

- Consideration of allergy skin/radioallergosorbent test (RAST) testing for better allergen identification for avoidance and/or immunotherapy, because of:
    - Failure of medical therapy.
    - Perennial or seasonal allergic rhinitis that is moderate to severe
- Associated comorbidities (see Table 5 in the original guideline document)
- Any severe allergic reactions causing patient or parental anxiety

Controversial Issues

Medication Versus Immunotherapy

A formal risk/cost-benefit analysis of medication therapy versus immunotherapy (allergy shots) has not been performed; however, patients with moderate to severe symptoms that continue year round (seasonal or perennial allergic rhinitis) may benefit most from immunotherapy *[D]*.

Definitions:

Levels of Evidence

Levels of evidence reflect the best available literature in support of an intervention or test.

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational trials
D. Opinion of expert panel

CLINICAL ALGORITHM(S)

A clinical algorithm for treatment of allergic rhinitis is available in the original guideline document.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

Conclusions were based on prospective randomized clinical trials if available, to the exclusion of other data; if randomized controlled trials were not available, observational studies were admitted to consideration. If no such data were available for a given link in the problem formulation, expert opinion was used to estimate effect size.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Accurate diagnosis and cost-effective treatment of allergic rhinitis
- Relief of symptoms of allergic rhinitis

POTENTIAL HARMS

Medication Side Effects

Refer to Table 8 in the original guideline document for details on medication side effects.

Intranasal Corticosteroids

The incidence of adverse effects is between 5 to 10%; local effects most commonly reported include sneezing, stinging, and burning or irritation.

Oral Antihistamines

First generation agents adversely affect cognition and performance.

Oral Decongestants

- Oral decongestants (including combination products containing a decongestant) should be used with caution in patients with unstable hypertension, ischemic heart disease, glaucoma, prostatic hypertrophy, or diabetes mellitus.
- Urinary retention in elderly males is a common side effect.
- Geriatric patients may be more sensitive to the effects of decongestants.

Nasal Cromolyn

- The four times daily dosing can cause compliance problems.
- Adverse effects are minimal and include nasal irritation, sneezing, and unpleasant taste.

CONTRAINDICATIONS

CONTRAINDICATIONS

Oral decongestants are contraindicated with monoamine oxidase inhibitors (MAOIs), in uncontrolled hypertension, and in severe coronary artery disease.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

These guidelines should not be construed as including all proper methods of care or excluding other acceptable methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding any specific clinical procedure or treatment must be made by the physician in light of the circumstances presented by the patient.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Clinical Algorithm
Patient Resources
Staff Training/Competency Material

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2002 July (revised 2007 Oct)

GUIDELINE DEVELOPER(S)

University of Michigan Health System - Academic Institution

SOURCE(S) OF FUNDING

University of Michigan Health System

GUIDELINE COMMITTEE

Allergic Rhinitis Guideline Team

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UMHS Guidelines Oversight Team: Connie Standiford, MD; William E. Chavey, MD; Van Harrison, PhD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

The University of Michigan Health System endorses the Guidelines of the Association of American Medical Colleges and the Standards of the Accreditation Council for Continuing Medical Education that the individuals who present educational activities disclose significant relationships with commercial companies whose products or services are discussed. Disclosure of a relationship is not intended to suggest bias in the information presented, but is made to provide readers with information that might be of potential importance to their evaluation of the information.

Team Member; Company; Relationship

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GUIDELINE AVAILABILITY

Electronic copies: Available for download (in Portable Document Format [PDF]) from the University of Michigan Health System Web site.

AVAILABILITY OF COMPANION DOCUMENTS

Continuing Medical Education (CME) information is available from the University of Michigan Health System Web site.

PATIENT RESOURCES

The following are available:

- Allergic rhinitis. University of Michigan Health System; 2007 Jan. Various p. Available from the University of Michigan Health System Web site.
- Saline nasal sprays & irrigation. University of Michigan Health System; 2006 May. Various p. Available from the University of Michigan Health System Web site.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This NGC summary was completed by ECRI on January 7, 2003. The information was verified by the guideline developer on February 4, 2003. This NGC summary was updated by ECRI Institute on January 22, 2008. The updated information was verified by the guideline developer on February 11, 2008.

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